

What is claimed is:

1. A lead assembly comprising:
 - at least one conductor extending from a conductor proximal end to a conductor distal end;
 - an inner electrode coupled with the at least one conductor, the inner electrode defined in part by an inner electrode inner surface, an inner electrode outer surface and inner electrode end surfaces;
 - an outer electrode disposed over the inner electrode, the outer electrode coupled with at least a portion of the inner electrode, the inner electrode and the outer electrode having a void therebetween; and
 - insulative material disposed between a portion of the inner and outer electrodes within the void, the insulative material extending between the outer electrode inner surface to at least a portion of the inner electrode outer surface.
2. The lead assembly as recited in claim 1, wherein the inner electrode and the outer electrode are coupled together along at least one coupling projection.
3. The lead assembly as recited in claim 2, wherein the inner electrode includes the at least one coupling projection extending therefrom.
4. The lead assembly as recited in claim 2, wherein the at least one coupling projection is defined in part by a projection outer surface, the projection outer surface including alignment features thereon.
5. The lead assembly as recited in claim 4, wherein the outer electrode includes one or more outer electrode alignment features therein.
6. The lead assembly as recited in claim 5, wherein the outer electrode alignment features include at least one sight hole.

7. The lead assembly as recited in claim 2, wherein at least one coupling projection is an annular projection.
8. The lead assembly as recited in claim 2, wherein at least one coupling projection has a cross-section with one or more substantially flat sides.
9. The lead assembly as recited in claim 2, wherein the inner electrode extends from a first end to a second end, and the at least one coupling projection extends substantially from the first end to the second end.
10. A lead assembly comprising:
 - at least one conductor extending from a conductor proximal end to a conductor distal end;
 - an inner electrode coupled with the at least one conductor, the inner electrode defined in part by an inner electrode inner surface, an inner electrode outer surface and inner electrode end surfaces;
 - an outer electrode disposed over the inner electrode, the outer electrode coupled with at least a portion of the inner electrode, the inner electrode and the outer electrode having a void therebetween;
 - insulative material disposed between a portion of the inner and outer electrodes within the void; and
 - the inner electrode and the outer electrode coupled together along at least one non-annular coupling projection disposed between the inner electrode and the outer electrode.
11. The lead assembly as recited in claim 10, wherein the at least one non-annular coupling projection has a coupling projection length substantially as long as the inner electrode.

12. The lead assembly as recited in claim 10, wherein the at least one non-annular coupling projection has a projection length substantially as long as the outer electrode.
13. The lead assembly as recited in claim 10, wherein the insulating material is a preformed component.
14. The lead assembly as recited in claim 10, wherein the insulating material includes at least one recess, and the at least one non-annular coupling projection is disposed within the at least one recess.
15. The lead assembly as recited in claim 14, wherein the at least one recess is smaller than the at least one non-annular coupling projection.
16. A lead assembly comprising:
 - at least one conductor extending from a conductor proximal end to a conductor distal end;
 - an inner electrode coupled with the at least one conductor, the inner electrode defined in part by an inner electrode inner surface, an inner electrode outer surface, a first end, and a second end;
 - an outer electrode disposed over the inner electrode, the outer electrode coupled with at least a portion of the inner electrode, the inner electrode and the outer electrode having a void therebetween;
 - insulative material disposed between a portion of the inner and outer electrodes within the void, the insulative material extending between first end and the second end; and
 - the inner electrode and the outer electrode coupled together along at least one coupling projection disposed between the inner electrode and the outer electrode.

17. The lead assembly as recited in claim 16, wherein the at least one coupling projection has a projection length substantially as long as the outer electrode.
18. The lead assembly as recited in claim 16, wherein insulation is a preformed component.
19. The lead assembly as recited in claim 18, wherein insulation includes at least one recess, and the at least one coupling projection is disposed within the at least one recess.
20. The lead assembly as recited in claim 16, wherein the inner electrode includes the at least one coupling projection extending therefrom.
21. The lead assembly as recited in claim 16, wherein the at least one coupling projection is defined in part by a projection outer surface, the projection outer surface including alignment features thereon.
22. The lead assembly as recited in claim 21, wherein the outer electrode includes one or more outer electrode alignment features therein.
23. A lead assembly comprising:
 - at least one conductor extending from a conductor proximal end to a conductor distal end;
 - an inner electrode coupled with the at least one conductor, the inner electrode defined in part by an inner electrode inner surface, an inner electrode outer surface, a first end, and a second end;
 - an outer electrode disposed over the inner electrode, the outer electrode coupled with at least a portion of the inner electrode, the inner electrode and the outer electrode having a void therebetween;
 - insulative material disposed between a portion of the inner and outer electrodes within the void; and

means for aligning the outer electrode with the inner electrode for the coupling process.

24. The lead assembly as recited in claim 23, wherein the outer electrode includes a sight hole therein.

25. The lead assembly as recited in claim 23, wherein the inner electrode includes sight marks thereon.

26. The lead assembly as recited in claim 25, wherein the sight marks are formed on a coupling projection of the inner electrode.

27. A method comprising:

coupling a conductor with an inner electrode,

disposing insulative material over the conductor and inner electrode;

disposing an outer electrode over the inner electrode and disposing the insulative material such that insulative material extends between an inner surface of the outer electrode and an outer surface of the inner electrode;

coupling the outer electrode with the inner electrode.

28. The method as recited in claim 27, wherein coupling the outer electrode with the inner electrode includes welding the outer electrode to the inner electrode.

29. The method as recited in claim 27, further comprising aligning the outer electrode with the inner electrode prior to coupling the outer electrode with the inner electrode.

30. The method as recited in claim 27, wherein disposing insulative material over the conductor and the inner electrode includes disposing preformed insulating material having one or more recesses therein.

31. The method as recited in claim 30, further comprising disposing one or more recesses over one or more coupling projections of the inner electrode.

32. The method as recited in claim 27, wherein disposing insulative material includes disposing insulative material extending between a first end of the inner electrode to a second end of the inner electrode.

33. The method as recited in claim 27, wherein coupling the outer electrode with the inner electrode includes coupling the outer electrode with a coupling projection extending outward from an outer surface of the inner electrode.

34. The method as recited in claim 27, wherein coupling the outer electrode with the inner electrode includes coupling the outer electrode with a non-annular coupling projection extending outward from an outer surface of the inner electrode.